

PATENT

Applicant: Rahman

Serial No.: 10/615,081

Filing Date: July 8, 2003

Title: Folded Monopole Antenna
For Implanted Medical Device

Group Art Unit: 2828

Examiner: Wimer

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
P.O. Box 1450
Arlington, VA 22313-1450

Mail Stop Appeal Brief - Patents

**RESPONSE TO NOTICE OF NON-COMPLIANT
APPEAL BRIEF DATED AUGUST 3, 2006**

Sir:

In response to Notice of Non-Compliant Appeal Brief dated August 3, 2006, attached hereto is a corrected version of the "Summary of Claimed Subject Matter" section of the Appeal Brief filed July 20, 2006. The corrected "Summary of Claimed Subject Matter" section cites to page and line numbers as well as to paragraph numbers. [Note that the "Grounds of Rejection" section begins on the last page of the "Summary of Claimed Subject Matter" section, as it did in the July 20, 2006 Brief.]

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 50-0638. Should such fees be associated with an extension of time, applicant respectfully requests that this paper be considered a petition therefor.

Respectfully submitted,

August 14, 2006

Date

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V. SUMMARY OF CLAIMED SUBJECT MATTER

A. Independent Claim 1

Independent claim 1 is directed to an RF telemetry antenna system. Referring to Figures 1 and 5, which are reproduced below, one example of the claimed system comprises “an implantable medical device housing including a conductive, metal housing portion [20] defining an internal volume and a dielectric housing portion [30] defining an internal volume,” “a self-resonating, monopole RF antenna [60] contained within the internal volume defined by said dielectric portion [30] of said medical device housing, said monopole antenna having a free end [65] and connection end [75]” and “an internal transmitter/receiver circuit [69] having a ground reference located within the metal housing portion [20] that is connected to the metal housing portion such that the metal housing portion acts as a ground plane.” [Spec. at pars. 0037, 0038 and 0042 on p. 9, l. 9 to p. 10, l. 6 and p. 10, l. 25 to p. 11, l. 13.] Claim 1 also indicates that “the monopole RF antenna [60] has an elongate form which is folded at least once and conformed inside the internal volume defined by the dielectric housing portion [30].” [Spec. at par. 0035 on p. 8, l. 35 to p. 9, l. 4.] Claim 1 further indicates that “the connection end [75] of the antenna [60] is connected to the internal transmitter/receiver circuit [69].” [Spec. at par. 0042 on p. 10, l. 25 to p. 11, l. 13.]

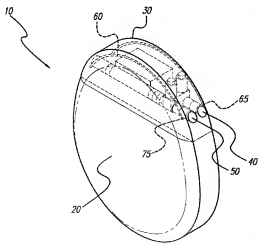


Figure 1 of the Present Application

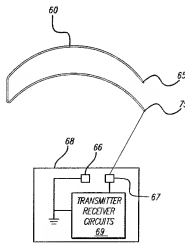


Figure 5 of the Present Application

B. Independent Claim 22

Independent claim 22 is directed to “[a]n implantable medical device.” Referring to Figures 1 and 5, which are reproduced above, one example of the claimed device comprises “a housing having a dielectric portion [30] defining an internal volume and a metal portion [20] defining an internal volume” and “a transmitter/receiver circuit [69] located within the housing.” [Spec. at pars. 0037 and 0042 on p. 9, l. 9-22 and p. 10, l. 25 to p. 11, l. 13.] The illustrated example of the claimed device also includes “an elongate monopole RF antenna [60], with a connection end [75], a free end [65] and at least one fold between the connection end and the free end, operably connected to the transmitter/receiver circuit [69] and positioned entirely within the dielectric portion [30] internal volume such that the free end is closer to the connection end than the at least one fold.” [Spec. at pars. 0038, 0041 and 0042 on p. 9, l. 23 to p. 10, l. 6 and p. 10, l. 18 to p. 11, l. 13.]

C. Independent Claim 24

Independent claim 24 is directed to “[a]n implantable medical device.” Referring to Figures 1 and 5, which are reproduced above, one example of the claimed device comprises “a housing having a dielectric portion [30], defining an internal volume and including a curved region, and a metal portion [20] defining an internal volume” and “a transmitter/receiver circuit [69] located within the housing.” [Spec. at pars. 0037 and 0042 on p. 9, l. 9-22 and p. 10, l. 25 to p. 11, l. 13.] The illustrated example of the claimed device also includes “an elongate monopole RF antenna [60], with at least one fold and first and second arcuate portions that extend along the curved region in first and second planes that are substantially parallel to one another, operably connected to the transmitter/receiver circuit and positioned entirely within the dielectric portion internal volume.” [Spec. at pars. 0038, 0041 and 0042 on p. 9, l. 23 to p. 10, l. 6 and p. 10, l. 18 to p. 11, l. 13.]

D. Independent Claim 33

Independent claim 33 is directed to “[a]n implantable medical device.” Referring to Figures 1 and 5, which are reproduced above, one example of the claimed device comprises “a housing having a dielectric portion [30] defining an internal volume and a metal portion [20] defining an internal volume,” “a transmitter/receiver circuit [69], located within the housing, including a ground reference connected to the metal portion [20] of the housing,” “a tissue stimulation circuit [69] located within the housing.” [Spec. at pars. 0037, 0038 and 0042 on p. 9, l. 9 to p. 10, l. 6 and p. 10, l. 25 to p. 11, l. 13.] The illustrated example of the claimed device also includes “an elongate antenna [60] with at least one folded portion operably connected to the transmitter/receiver circuit [69] and positioned within the dielectric portion [30] such that transmissions from the at least one folded portion are receivable outside the dielectric portion.” [Spec. at pars. 0038, 0041 and 0042 on p. 9, l. 23 to p. 10, l. 6 and p. 10, l. 18 to p. 11, l. 13.]

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**A. Rejections Under 35 U.S.C. § 103**

Claims 1-12, 22-28, 30 and 32-38 have been rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,240,317 to Villaseca (“the Villaseca patent”). On pages 2-6, the Office Action stated:

Regarding Claims 1-3,5,13-15,22,25-28 and 30-38, Villaseca et al. shows in Fig. 7, for example, an RF telemetry antenna system for communication between an external programmer and an implantable medical device, where the system comprises an implantable medical device 122 having a housing made of metal such as titanium and of a cylindrical form and defining an internal volume, and a dielectric housing portion 138 defining an internal volume, a self-resonating, monopole antenna 124, wire 134, 136 with free end and connection end 126 contained within the internal volume defined by the dielectric portion 138, an internal TX/RX (col. 9, lines 15-26) operating in the 400 MHz. band and comprising a tissue stimulation circuit, where the antenna has an elongate form, folded at least once and conforms with the inside of the housing 138, and the connection end 126 has the shield 124 of